



**REGISTRATION
AUTHORITY**
FOR CHARTERED PROFESSIONAL ENGINEERS

2022 **Annual Report**

Annual Report of the Registration Authority to the Chartered Professional Engineers Council pursuant to section 52 of the Chartered Professional Engineers of New Zealand Act 2002

1 January – 31 December 2022

Under the Chartered Professional Engineers of New Zealand Act 2002, the Registration Authority reports to the Chartered Professional Engineers Council each year on its administration of the Register of Chartered Professional Engineers. This report covers the 20th year of operation of the Chartered Professional Engineers (CPEng) Register.

The Registration Authority under the Chartered Professional Engineers of New Zealand Act 2002 is the Institution of Professional Engineers New Zealand (trading as Engineering New Zealand Te Ao Rangahau).

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Overview

System review

A key strategic priority for the Registration Authority during 2022 was to progress the CPEng Review Project. The aim of the project is to support the development of an updated, credible and fit-for-purpose Chartered Professional Engineers' model that appropriately assesses the technical competency and professionalism of Chartered Professional Engineers and holds these engineers to account, where required.

In 2022, the CPEng Review project delivered a fully operational, separate board for the Registration Authority. The new Chartered Professional Engineers Board took effect on 1 January 2022. In addition, new operations manuals for the Registration Authority's assessment and reassessment processes were developed, with the

required supporting procedures documented. In 2023, the CPEng Review project will look into the potential integration of Bodies of Knowledge and Skills into the CPEng assessment process.

In March 2022, Cabinet announced sweeping changes to the way engineers are regulated. The Parliamentary Council Office is now drafting legislation for a new regulatory system for engineers. Once legislation is passed, there will be mandatory registration for all engineers, and licensing for safety-critical engineering work. CPEng will be repealed after a six-year transition stage. The Registration Authority has continued to liaise with MBIE in support of the reform.

Key activities

The key activities completed by the Registration Authority in 2022 were:

- » Revised assessment and reassessment operating procedures documented, with related candidate guidance documents published on the website.
- » Full appraisal of assessors currently employed to evaluate assessments and capacity planning for 2023.
- » Onboarding of 20 new Lead Assessors.
- » Embedding the structural triage process to ensure efficient yet rigorous processing of structural¹ reassessment applications.
- » Continuing our work to increase the proportion of female Chartered Professional Engineers.

Highlights

Some of the highlights of the Registration Authority's work in 2022 were:

- » Almost doubling the number of assessments for continued registration processed, from 442 in 2021 to 835 in 2022.
- » Completing 285 assessments for admission to the CPEng register.
- » Successfully working with the newly established CPEng Board to address risks and strengthen our processing of assessments and reassessments.
- » Fee increase of 10% following consultation with registrants and work with the Ministry of Business, Innovation and Employment and Parliamentary Council Office. The fee increase is effective from January 2023.
- » New applicant guidance for assessments and reassessments published, including specific structural assessment guidance
- » New Continued Professional Development (CPD) guidance developed with CAB. The new guidance specifies the types of CPD that assessors will look for. Applicants have been asked to follow guidance as they plan and report on CPD from 2023 onwards
- » New credential check process implemented. The new process requires applicants without authenticated credentials to go through a third-party provider².
- » New industry disclosure process trialled, with implementation ongoing. The new process provides a streamlined way for industry (particularly building consent authorities) to provide feedback on Chartered Professional Engineers.
- » New referee guidance and questions implemented
- » New prioritisation process for IT changes to ensure continuous system improvements.
- » New knowledge assessment process documented, and first phase IT development complete for implementation in March 2023.

¹ The focus has been on the Structural field, as this is where we have the greatest number of applicants. We may look to expand the triage process to other fields in future.

² Our third part provider is Qualification Check

- » Ongoing management of the complaints system. Thirty-seven complaints were closed in 2022. The number of open files has reduced compared to 2021, with the benefit of early resolution and fewer complaints received during the year.
- » Working with technical experts to develop a draft knowledge base as well as application guidance for Recognised Engineers in view of new Dam Safety regulations.

Challenges

In 2022 the Registration Authority focused its effort on the highest risk to upholding CPEng as a quality mark. Notably, these efforts were focused on reducing the backlog of applications for continued registration, performance measurement and reporting and strengthening applicant systems/processes. The prioritisation of applications for continued registration meant that we processed fewer CPEng admission applications.

To manage our increasing workload, we recruited additional Lead Assessor resource and have analysed current practice area assessor capacity to enable us to put out targeted calls for practice area assessors in practice areas where we have insufficient capacity. In addition, we have embedded the technical triage panel, which was piloted in 2021 to review reassessments in the structural practice field. Structural specific guidance has been developed in collaboration with the Structural Engineering Society of New Zealand (SESOC) to ensure this process is rigorous, transparent, and aligned with the Structural Body of Knowledge and Skill.

Although we are confident that we are delivering fair and robust processes, we are cognisant this results in a large amount of work for our volunteer decision makers. We are also mindful of the sustainability of being able to continue to deliver these functions with a heavy reliance on volunteers, and while operating at a significant financial deficit. We ended the financial year with a net financial deficit of \$150,008.00 on CPEng related activities (Appendix 2).

The financial deficit also reflects an operating environment in which rising costs have not been matched by any increase in registration fees since 2015. In recent years, any review of fees has been deferred because of MBIE's proposed changes to Occupational Regulation (2018/19) and anticipated economic hardship resulting from the Covid-19 pandemic. From 1 January 2023 all fees increased by 10% and we propose to review fees biennially going forward.

Key statistics at a glance

At the end of the reporting period:

Number of registered CPEngs	4,300
Number of first-time applicants registered	247
Number of applicants declined registration	21
Number of engineers resigned or removed from the register	157
Number of registrations placed in abeyance	30
Number of registrations suspended	72
Number of disciplinary findings made against registered CPEngs³	2
Charges payable for registration (less any rebates)*	\$3,253
Charges payable for the issue of a registration certificate*	\$460

³ This is down from 8 in 2021.

* Charges are set out in Schedule 2 of the Chartered Professional Engineers of New Zealand Rules (No.2) 2002.

CPEng Review

As discussed above, the Parliamentary Council Office is now drafting legislation for a new regulatory system for engineers. Once legislation is passed, CPEng will be repealed after a six-year transition to the new regulatory regime. As such we still see our own internal review of the current CPEng model as an important step in maintaining a robust and unambiguous framework that works for all engineering professionals and for the public.

- » A key outcome of the CPEng Review was establishing a separate CPEng Board to oversee the governance of the Registration Authority function. Appointing a separate Board distinguishes CPEng governance from Engineering New Zealand membership governance as far as possible under the current CPEng legislation. The new CPEng Board was appointed in December 2021 and the first meeting of the Board was held on 14 February 2022. The CPEng Board will meet six times throughout the year.
- » We also completed an end-to-end review of the current CPEng assessment processes. Through this review, the CPEng assessment and reassessment protocols have been documented and a range of opportunities for improvement have been identified. The two key factors guiding this work are ensuring that our processes are fit for purpose and follow a proportionate to risk-based methodology.
- » During 2022 our focus switched to implementing the identified improvement opportunities, including:
 - » improved guidance for candidates and assessors to enhance the quality of assessment applications and assessment decision making. New guidance was published on our website in December 2022
 - » improved moderation/audit processes for Lead Assessors. A revised manual for Assessors has been drafted and will be workshopped with assessors in March 2023
 - » consolidation of existing documentation into a single, version-controlled repository of forms/documentation
 - » introduction of structural-specific CPEng assessment guidance which incorporates the structural Body of Knowledge and Skills (BOKS). This was developed in collaboration with the structural technical group, SESOC. Our work on this will help us to seek out opportunities to incorporate other BOKS, and is a platform for supporting any potential transition to a licensing regime.

Strategic priorities for 2023

Our priorities for 2023 are:

- » Ongoing strengthening and streamlining of assessment and reassessment processes. Bi-monthly reviews of processing numbers, timeframes, risks and issues.
- » Improved Registration Authority communications.
- » Growing working relationships with key stakeholder groups (Standards Accreditation Board, CAB, technical societies and others).
- » Continued IT improvements, notably the usability and accessibility of the online register.
- » The CPEng Board aims to have increased oversight of competency assessment standards. Historically CAB has managed standards through their oversight of assessments and reassessments processed. Policies around the standard will now be overseen by the CPEng Board.
- » The CPEng Board will also increase oversight of the complaints and disciplinary processes. The Registration Authority's complaints and disciplinary process is cumbersome and there are several pain points that need to be addressed, for the benefit of all parties. The CPEng Board intends to oversee the development of a practice note for the processes, starting in June 2023.
- » A review of the Bodies of Knowledge and Skills (BOKS) and how (or if) these should be implemented into the CPEng system. This work will include a template and guidance for the BOKS development. It will also include consideration of whether a professionalism BOKS should be developed.
- » Increased communication to registrants and the engineering sector, and improved promotion to engineers who are not yet chartered.

Competence assessment

Applications for initial registration

During 2022, 247 first-time applicants successfully gained CPEng registration. This was around one-third fewer than the number who were admitted in 2021 (421). This is because of the need to prioritise the processing of applications for continued registration in 2022.

We have continued to use assessment rounds for initial applications, which has helped engineers determine

when they need to complete their assessment portfolio submission. This has also provided us with increased visibility on the allocation of assessors to the numbers of applicants in the scheduled rounds. Our current capacity enables us to accept around 40 initial applications per month.

Applications for continued registration

At the start of 2022 we had a backlog of reassessment applications to process. Throughout the year, we refined our procedures to improve the efficiency of the reassessment process, including:

- » placing the onus on the candidate to provide succinct information which demonstrates their continued competence
- » embedding the technical triage panel for structural reassessments, in addition to generally triaging applications
- » growing the size of the technical triage panel for structural engineering registrants
- » increasing the number of Lead Assessors available to assist.

We doubled the number of reassessments processed in 2022. We are currently still processing 183 reassessments that were due by 2022 and aim to have these completed in May 2023. As such, we have planned four cohorts of applications for continued registration, the first being due on 1 April 2023.

Consistent with provisions in the CPEng Rules, we are publishing the names of applicants for initial and continued registration in each monthly cohort on the Engineering New Zealand Te Ao Rangahau website. This gives the public, and other relevant parties, an opportunity to provide feedback on applicants.

Registration of Recognised Engineers – Dam Safety

The Government made new regulations on dam safety (Building (Dam safety) Regulations 2022) on 12 May 2022. The Regulations commence on 13 May 2024. The Regulations prescribe qualifications and competencies for Recognised Engineers, with the prescribed qualification to be given by Engineering New Zealand Te Ao Rangahau. The role of the Recognised Engineers is to audit and certify Potential Impact Classifications and Dam Safety Assurance Programmes for classifiable dams.

Engineering New Zealand Te Ao Rangahau is conducting the Recognised Engineer (Dam Safety) Project. The purpose of the project is to develop and implement the Recognised Engineer Competency Framework (Dam Safety) by December 2023 to support

the implementation of the Building (Dam Safety) Regulations 2022. This incorporates establishing the assessment and registration processes for the Register of Recognised Engineers (Dam Safety). The project method is to establish an initial pool of Practice Area Assessors and Recognised Engineers (Dam Safety) and then to implement the initial assessment and registration process while conducting regular monitoring and review to ensure the viability and efficacy of the process. The project will conclude with the implementation of the process as a business-as-usual activity.

Engineering New Zealand Te Ao Rangahau is working together with the New Zealand Society of Large Dams (NZSOLD) and with certain funding support from MBIE to develop and implement the Competency Framework.

CPEng Board

The CPEng Board is currently comprised of the following members:

- » Keryn Kliskey (Chair, civil)
- » Debbie Scott (Deputy Chair, fire)
- » Avik Halder (SAB representative, civil)
- » Matt Harris (CAB representative, civil)
- » Paul Campbell (structural)
- » Mel Orange (lawyer)
- » Stewart Gutsell (mechanical)

Appointments to the CPEng Board were made in December 2021 by the Governing Board following an expression of interest process managed by Engineering New Zealand. The Chair and Deputy Chair were selected by the CPEng Board during its inaugural meeting in February 2022.

In 2023 the CPEng Board would like to increase its technical diversity and will approach the Governing Board with an additional appointment from the geotechnical discipline.

Competency Assessment Board

The Competency Assessment Board (CAB) met monthly during the reporting period (except for January where there was no meeting) to consider recommendations from Assessment Panels.

CAB Members are Chartered Professional Engineers with extensive experience in, and knowledge of, professional engineering. In appointing members, the Registration Authority looks for candidates with experience in competency assessments and quality assurance of competency assessments. Consideration is given to geographical representation, diversity, and inclusivity within the CAB membership.

In 2022 the CAB welcomed new member Rachel Wright. The CAB also said farewell and thank you to Sheila Karimi and Sina Cotter Tait in 2022. Matt Harris was appointed as the CAB Representative for the CPEng Board. The members of the CAB in 2021 were:

- » Stewart Hobbs: appointed chair in 2019 and reappointed in 2020 for two years – term expired March 2022
- » Sisira Jayantha: reappointed in March 2023 – term expires March 2025
- » Daniel Kennett: appointed as new Chair in March 2023 – term expires March 2024
- » Matt Harris: reappointed in 2023 for two years – term expires March 2025
- » Brady Cosgrove: reappointed in 2022 for two years – term expires March 2024
- » Dominique Tharandt: reappointed in 2022 for two years – term expires March 2024
- » Rachel Wright: appointed in 2022 for two years – term expires March 2024

Assessors

Lead Assessors

In 2022, we onboarded 20 new Lead Assessors. We now have:

- » 42 active CPEng Lead Assessors (4 of whom are focused on structural triage)
- » 4 knowledge assessors

We are currently finalising a detailed new assessor manual and plan to present this to the Lead Assessors at a two-day workshop planned for the end of March 2023. This workshop will enable all Lead Assessors to contribute to and refine the manual and will enable the team to plan a consistent approach to assessments for the year.

We have also scheduled quarterly check-in meetings with Lead Assessors to provide opportunities for improvement and support throughout the year.

Practice Area Assessors

We strengthened our process for onboarding new Practice Area Assessors (PAAs) and have scheduled quarterly onboarding sessions for those interested and eligible to become PAAs. In 2022 we contacted all of our PAAs to determine whether they were still available to undertake assessments, and 416 of the 464 confirmed their ongoing availability. In 2023, we would like to increase this number so that we may progress assessments efficiently.

We have also scheduled regular PAA refresher sessions throughout the year to ensure PAAs can ask questions and discuss issues.

Structural triage panel

We currently have 4 Lead Assessors and 10 expert structural PAAs on the structural triage panel.

In 2022 we put out a call for applications for Expert Structural Assessors to join the Triage panel. Out of 16 applications, we have onboarded three new structural triage PAAs. We would still like to add 5 more structural triage members to assist the team with their workload. Specifically, we need assistance in the high-rise, bridges and tunnelling practice areas.

Table 1: Summary of assessor numbers as at end of 2022

Assessor Type	2019	2020	2021	2022
Practice Area Assessor	439	448	464	416
Contract Lead Assessor	20	24	23	40
Engineering New Zealand Staff Lead Assessor	3	3	2	2
Knowledge Assessor	4	4	4	4

Register/assessment trends

Table 2 provides a summary of key registration and assessment statistics, including those required by section 52(2) of the CPEng Act.

Table 2: Registration statistics

Registration Statistics for	2018	2019	2020	2021	2022
(A) Chartered Professional Engineers at the end of the reporting period (see Figure 1 for longer term trend)	3,780	3,879	4,010	4,251	4,300
(B) Applicants (first) registered during the reporting period	313	247	398	421	247
(C) Applicants (first) registered via mutual recognition (subset of B)	46	31	31	36	33
(D) Applicants declined registration during the reporting period	11	6	23	25	21
(E) Total Assessments for Admission completed (B+D) (see Figure 2 for longer-term trend)	324	253	421	446	268
(F) Assessment for Admission pass rate	96.5%	97.5%	95%	95%	92%
(G) Continued Registration Assessments completed (See Figure 2 for longer term trend)	330	507	587	461	836
(H) Registrants resigned or removed during the reporting period (see note 1)	142	153	79	89	157
(I) Registrants suspended during the reporting period	94	133	117	92	72
(J) Registrants placed in abeyance during the reporting period	39	48	36	42	30
Median processing times					
Assessments for Admission	92 days	120 days	101 days	116 days	139 days
Continued Registration Assessment	99 days	160 days	147 days	151 days	238 days

Note 1: Reasons for removal from the register can include:

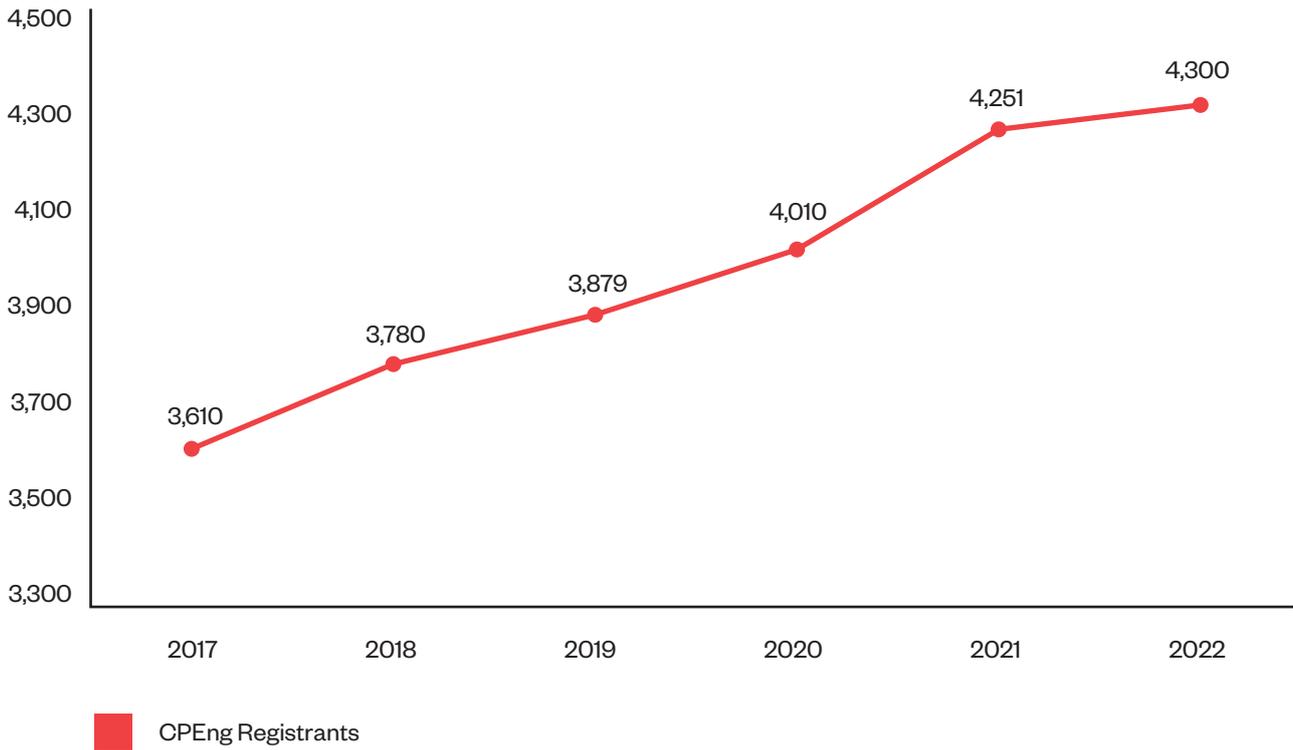
- » resignation
- » death
- » Registration Authority action due to non-payment of fees, inability to meet the standard for continued registration or disciplinary action.

The number of registrants who resigned or were removed from the register during a year includes registrants whose registration was already in suspension at the beginning of that year.

Overall registration numbers

The growth rate of CPEng registration eased in 2022, this reflects our focus on reassessments for the year. In 2023 we are aiming to complete 400 assessments for CPEng registration.

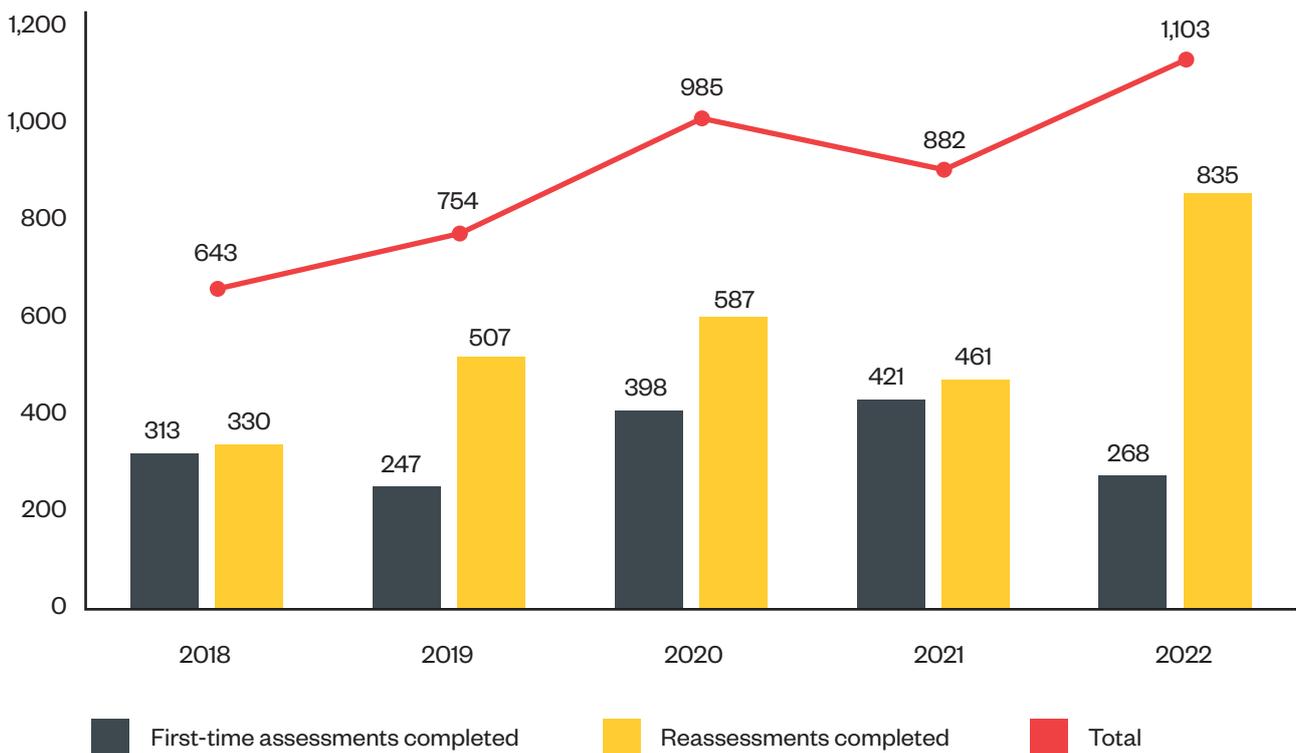
Figure 1: Number of CPEng Registrants



Assessment numbers

In comparison to 2021, we doubled the number of reassessments completed in 2022. At the current pace, we expect to clear all reassessments due by 2022 in May 2023. Our first cohort of reassessments for 2023 will be due on 1 April 2023 – this gives the Assessment Team time to validate the applications and start allocating to Assessment Panels from mid-April to May.

Figure 2: Number of assessments processed



CPEng Registration under Mutual Recognition

Thirty-three engineers successfully applied for CPEng under mutual recognition schemes in 2022. The successful applicants came via the Trans-Tasman Mutual Recognition Act (TTMRA) or through mutual recognition from other jurisdictions.

We continue to apply the policy developed in 2004 for handling applications for CPEng from Registered Professional Engineers Queensland (RPEQ) in compliance with the TTMRA. The same principles are applied to those who have attained registration in other jurisdictions that require an equivalent level of competence to CPEng.

Assessment processing times

We are aiming to complete first-time assessments within three months by the end of 2023. The increased processing times reflected in Table 2 are consistent with the backlog that has been processed this year. Our increased Lead Assessor capacity, improved candidate guidance, detailed assessor manual, and streamlined internal processes aim to reduce the processing times for 2023.

Assessment pass rates

The pass rate for CPEng declined slightly from 95% in 2021 to 92% in 2022. Having introduced much clearer expectations for referees and CPD requirements, the pass rate for CPEng may decline initially, as expectations for applications are much more specific than they have been in previous years. However, we expect this to stabilise over the coming years, as awareness of these requirements improves and applicants provide higher quality portfolios of evidence for registration applications.

The high pass rate in part reflects the nature of the assessment process. By the time an applicant has submitted their assessment they have had the benefit of the guidance we provide through our presentations and our strong recommendation candidates share their portfolios with mentors who are chartered. Our validation process also assists us to discriminate between good and poor submissions. We return poor submissions back to applicants for improvement before progressing them to an assessment panel. Once improved, applicants are invited to resubmit.

Age distribution and gender breakdown

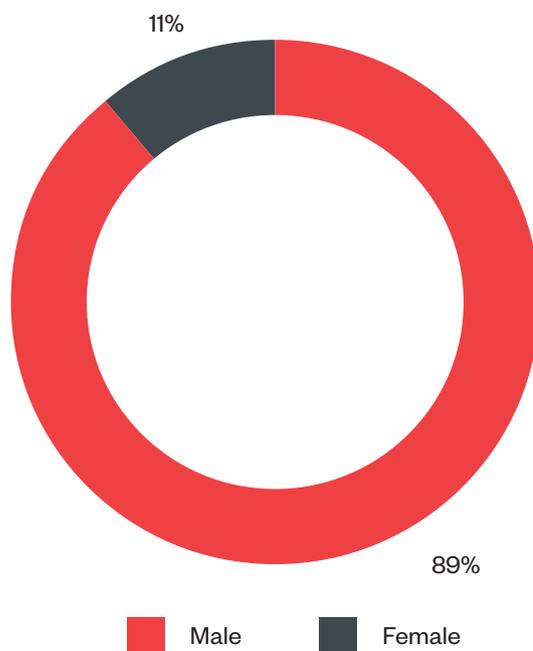
In 2018 the Registration Authority set a goal of increasing the number of women represented on the register by 20% in 2021. To attain this, the Registration Authority needed to have 400 women registered as CPEng. At the end of the reporting period, the Registration Authority had 480 women recognised as CPEng.

Increasing the representation of women in the engineering profession remains a critical issue, but one that requires a sustained, multi-faceted approach. The Diversity Agenda is Engineering New Zealand Te Ao Rangahau's key leadership initiative for the profession and has over 160 firms committed to driving change. In 2020 the Diversity Agenda was enhanced by the launch of the Diversity Agenda Accord – which has drawn formal commitments from Chief Executives and business owners to diversity objectives and targets.

Engineering New Zealand Te Ao Rangahau's work on the Diversity Agenda and Diversity Agenda Accord helps the Registration Authority achieve its wider targets for diversity across CPEng.

Beyond that, Engineering New Zealand Te Ao Rangahau's innovative Schools programme, the Wonder Project has a particular focus on engaging with young people, particularly girls, Māori and Pasifika to shift perceptions about STEM subjects and the impact that engineers can have on society. This also has positive flow on effects for the CPEng register.

Figure 3: Gender (binary⁴) breakdown of CPEng registrants



⁴ We are working on implementing the ability to capture non-binary genders in our reporting.

Table 3: Gender (binary) breakdown of CPEng registrants 2018-2022

Year	Female	Male
2022	11%	88.9%
2021	10.6%	89.4%
2020	9.8%	90.2%
2019	9.7%	90.3%
2018	9.2%	90.8%

Te Ao Māori

Kimihia Rangahaua is Engineering New Zealand Te Ao Rangahau's strategy to embrace Te Ao Māori (Māori world views). Te Ao Rangahau is committed to embedding Te Ao Māori and Mātauranga Māori (Māori knowledge and knowledge systems) within the engineering profession, informing the values and practices that shape what it means to be an engineer in Aotearoa.

Māori have been, and continue to be, underrepresented in the profession. While providing ethnicity data to the Registration Authority is optional, the data we hold shows that only 1% of CPEng registrants are Māori, a slight increase from last year (0.3%).

Data from the 2018 Aotearoa census indicates that 7% of engineers in Aotearoa identify as Māori, with Māori comprising 16.5% of the national population.

The skills championed through Kimihia Rangahaua, such as engagement and relationship-building, will support the interconnection of engineers. Support networks and the incorporation of Mātauranga Māori in engineering practice will enable greater connection within Māori engineering communities and between Māori and the wider profession.

Figure 4: Ethnicity of CPEng registrants

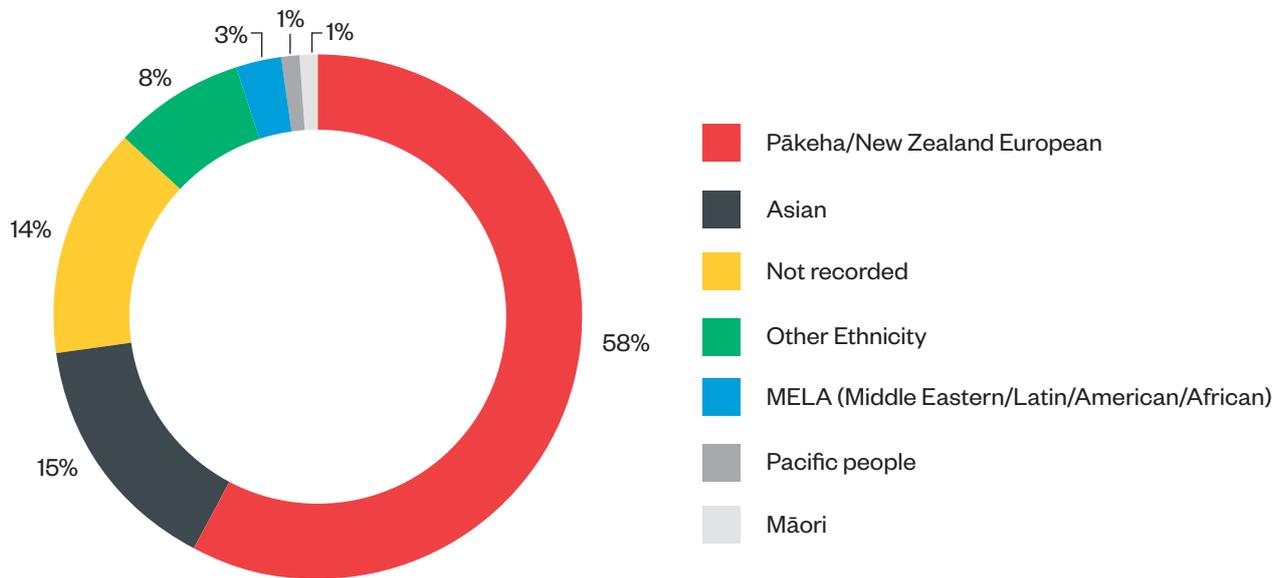


Figure 5 shows a distributed age profile of CPEngs. Engineers tend to follow wider workforce trends of working longer, with 3.9% of registrants working and contributing to the profession in the 70–89 age bracket. The age distribution of registrants remained relatively stable in 2022.

Figure 5: Age distribution of CPEng registrants

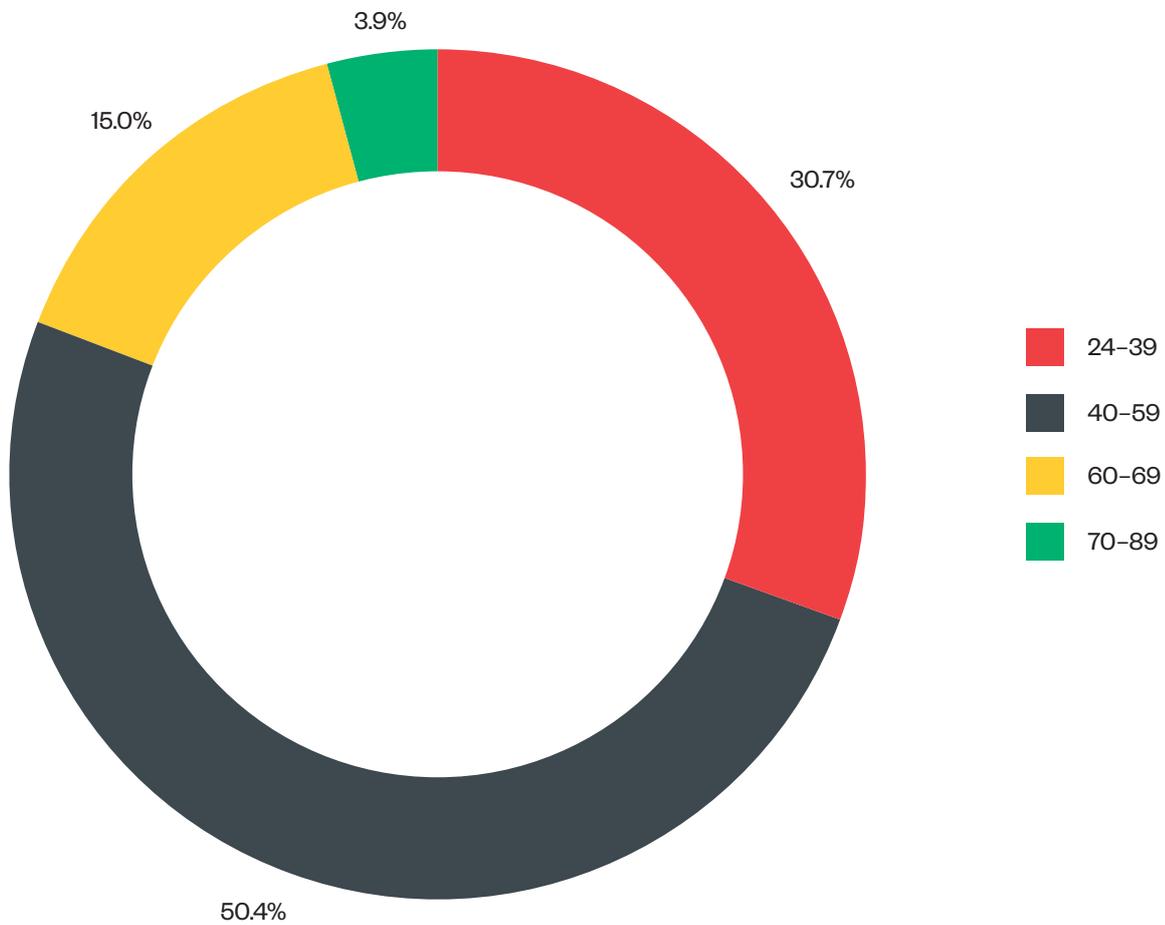


Table 4: Age distribution of CPEng registrants 2017-2022

Year	24-39	40-59	60-69	70-89
2022	30.7%	50.4%	15%	3.9%
2021	32.0%	49.1%	14.6%	4.1%
2020	30.1%	49.2%	15.9%	4.8%
2019	29.1%	50.1%	16.3%	4.5%
2018	28.8%	50.9%	16%	4.3%
2017	27.6%	51.6%	16.7%	4.3%

Fields of engineering practice

Candidates self-declare the practice fields they consider their practice area best aligns with as part of their portfolio of evidence for either their first-time assessment or reassessment. Candidates are also able to select more than one practice field. The Registration Authority has noticed an increase in the number of candidates wanting to add more than one practice field to their CPEng registration.

From January 2023 we require candidates applying for more than one practice field to provide an additional 15 hours of CPD per year for each additional practice field.

The information in Table 5 below provides the number of current registrants in a practice field. Note: totaling the number of registrants across all fields will exceed the total number of current CPEng registrants.

Table 5: Distribution of CPEng registrants by practice field

Practice field	2017	2018	2019	2020	2021	2022
Structural	1,154	1,199	1,258	1,402	1,457	1,471
Civil	1,471	1,439	1,427	1,505	1,415	1,336
Management	590	562	520	499	420	421
Geotechnical	314	337	354	392	401	406
Transportation	331	323	311	352	345	344
Mechanical	298	298	285	306	315	317
Environmental	414	392	382	380	312	276
Electrical	238	248	241	277	270	267
Building Services	155	160	187	224	227	238
Water	0	0	2	48	126	220*
Fire	85	91	93	97	108	110
Industrial	120	116	113	119	123	107
Petroleum	35	36	34	33	32	27
Chemical	32	37	31	35	31	22
Information	23	21	20	17	14	14
Academic	0	5	6	1	1	10
Aerospace	13	12	11	11	10	8
Mining	9	8	6	6	7	6
Mechatronics	0	0	0	0	0	3
Bio	3	2	0	1	1	0
Software	0	0	0	0	0	0

* The increase in the number of CPEngs in the Water discipline in 2021 can be attributed to a general desire to have a recognised water and waste workforce stemming from the Three Waters reform. The demand for CPEng water engineers with recognised skills and experience has continued in 2022.

Geographical distribution

Table 6 shows the geographical distribution of CPEng registrants that are also members of Engineering New Zealand Te Ao Rangahau. The challenge for any engineers practicing overseas will be their ability to demonstrate (depending on their practice area) that they are still able to comprehend and apply knowledge of accepted principles underpinning widely applied good practice for professional engineering specific to Aotearoa when undertaking reassessments. All meetings now take place via online videoconferencing.

Table 6: Geographical distribution of CPEng registrants

Engineering New Zealand Branch	2018	2019	2020	2021	2022
Northland	64	60	68	71	71
Auckland	1,358	1,390	1,558	1,628	1,642
Waikato-Bay of Plenty – Hamilton	216	225	248	254	250
Waikato-Bay of Plenty – Tauranga	117	123	136	157	162
East Coast	4	4	6	6	5
Taranaki	78	76	79	80	80
Hawkes Bay	78	67	75	82	84
Whanganui	11	11	11	11	9
Manawatu	44	42	42	36	36
Wellington	439	430	464	486	489
Nelson-Marlborough	79	80	88	93	87
West Coast	10	11	12	10	9
Canterbury	618	645	742	728	737
South Canterbury	13	12	15	20	19
Otago	120	117	128	122	126
Southland	23	19	21	21	20
United Kingdom	39	46	47	32	30
No branch*	351	200	200	257	149
CPEng Non-members**	118	321	227	157	295***
TOTAL	3,780	3,879	4,167	4,251****	4,300

* CPEng/Engineering New Zealand members overseas (outside of the UK) or not affiliated to a branch in Aotearoa.

** Registered CPEng who are not Engineering New Zealand members and therefore not members of a branch

*** The increase in the number of CPEngs who are not members of Engineering New Zealand may be attributed to the increasing cost of living, or potentially due to them not seeing the need to be both CPEng and Engineering New Zealand members.

**** The 2021 total included those CPEng on voluntary hold (4), in abeyance (42) and suspended (117).

Complaints and disciplinary activity

Key themes and highlights

If the theme of 2021 in the complaints and disciplinary space was progress, the theme for 2022 was disruption. In 2021, measures were put in place and resourcing increased to tackle the backlog of files to ensure the complaints function remained efficient, robust, and credible. As a result, that year we closed more complaints than over the previous five years and issued a record number of disciplinary findings.

That same rate of stellar progress was not able to be sustained in 2022 due to staff turnover, including the departure of the Legal team's two most senior members. Challenges associated with recruiting and upskilling new staff were further compounded by a late influx of new complaints in the last third of the year, after a reasonably quiet start. We continue to have a high number of complex complaints progressing through the formal complaints process which by necessity take somewhat longer than more simple matters.

The excellent rate of progress in advancing matters and successfully closing files will resume in 2023 when the Legal Team is fully staffed.

A large proportion of the new complaints received in 2022 related to concerns about professional standards and engagement, rather than competency. It is possible that clear communication has been a casualty of both the pandemic and the building boom, with people being quicker to complain rather than take time to work through misunderstandings. This is an area where our alternative dispute resolution mechanisms can assist and lead to positive outcomes that help restore faith in the profession. We can also help provide more guidance to particularly sole practitioners on better practices for engaging and communicating with the public.

Complaints snapshot

Concerns/complaints received

We received 25 concerns/complaints about Chartered Professional Engineers during the 2022 calendar year. This is eight less than in 2021 and 19 less than in 2020. The majority of concerns and complaints continue to come from engineers' private clients, but we have had a steady number from building consent authorities and other engineers.

JURISDICTION

We are regularly contacted by clients wishing to dispute invoices or seek compensation where a contract has soured. These enquiries are not included in our complaints statistics but are usually received on at least a weekly basis.

We set clear boundaries and manage complainants' expectations by explaining our role and powers – we only have the jurisdiction granted to us under the Chartered Professional Engineers of New Zealand Act 2022 and the associated Rules, including to investigate whether there has been a breach of the Code of Ethical Conduct or a failure to meet the competency standards – we do not have the power to resolve commercial disputes. We encourage complainants who are seeking financial outcomes to consider other options, such as the Disputes Tribunal. Complainants who come to our process with financial goals at front of mind are often dissatisfied with the eventual outcome.

In 2021 we created an information sheet, including FAQs, to provide to complainants to reinforce our messaging around our jurisdiction and powers. We intend to build on that in 2023.

Concerns/complaints closed

We are obliged to respond to all complaints we receive. Our first step on receiving concerns is to undertake an initial investigation. During this stage we ascertain if the Registration Authority has the jurisdiction to investigate the complaint and whether it is suited for our early resolution procedures.

Approximately half of the concerns we receive are resolved by early resolution. This is something we remain very proud of. We put a lot of effort into finding resolutions that leave both parties with a sense of resolution, as opposed to the limited and adversarial outcomes available through the formal process. The formal process has its place for more serious complaints, but it does not necessarily promote the restoration of trust and confidence between a client and an engineer – for low-level concerns regarding communication or client care, early resolution is a hugely valuable tool.

The only limitation of early resolution is the parties willingness to engage; both parties need to agree to concerns being resolved this way. We will continue to work with parties to help them see the value in this method of resolution where possible.

Any complaints which are not resolved by some form of early resolution are then referred to an adjudicator then potentially to an investigating committee. Both of those decision makers have the ability to recommend the parties attempt alternative dispute resolution. Case Study Three below provides a success story of how alternative dispute resolution worked to resolve a complaint that had progressed to an investigating committee stage. This is something we will continue to encourage.

The formal complaints process has three decision-making stages: adjudication, investigating committee and disciplinary committee. A complaint may be dismissed at any of these three stages but can only be upheld by a disciplinary committee. As can be seen in Table 7 below, it is very rare for a complaint to be dismissed by a disciplinary committee. If the complaint has not been able to be dismissed by an adjudicator or investigating committee, it is more likely that not that there is sufficient evidence and gravity to uphold the complaint. This is not, however, an automatic conclusion; all disciplinary committees look carefully at all of the information before them before making a decision.

Manner of resolution

Table 7: Manner of resolution of complaints files

Year	Early Resolution (including ADR, OJ)	Adjudicator dismissed	IC dismissed	DC dismissed or upheld
2022	16	14	3	2 upheld
2021	17	16	4	9 upheld
2020	19	5	6	4 upheld
2019	20	8	2	3 upheld
2018	16	15	4	1 upheld

The table above shows the manner of resolution for concerns/complaints. The proportion of matters being resolved at an early stage remains pleasing.

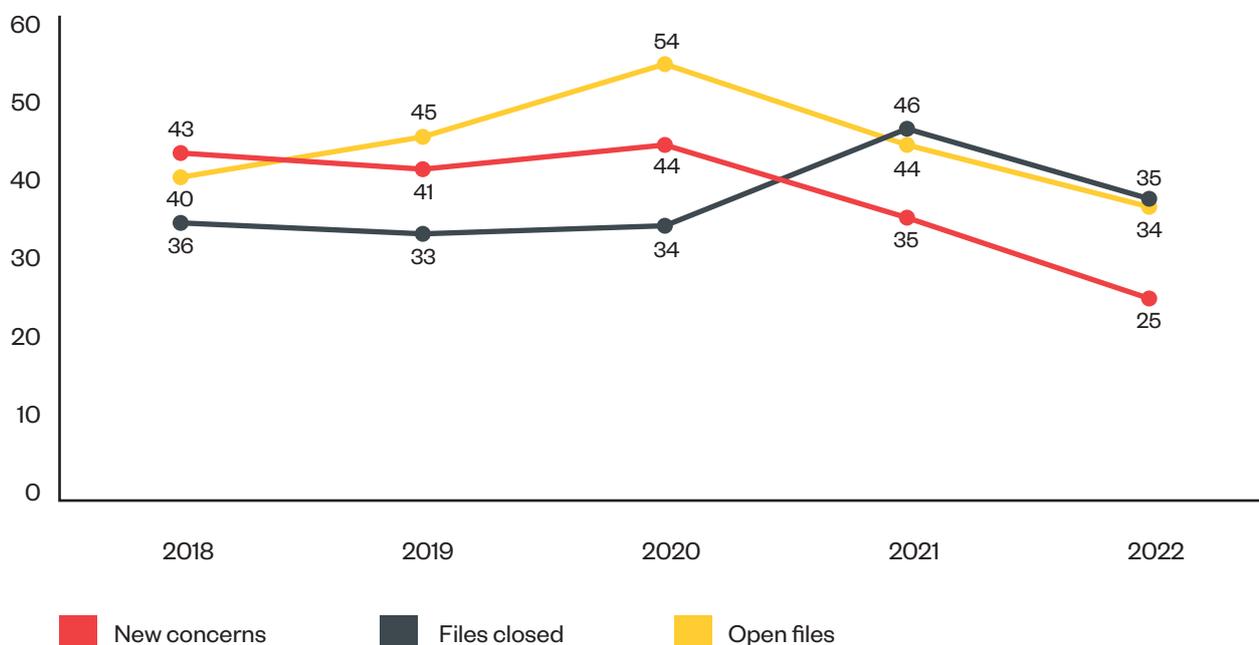
Two complaints were upheld by disciplinary committees in 2022. These decisions were published on the Engineering New Zealand Te Ao Rangahau website.

At the end of 2022, there was one complaint being considered by a Disciplinary Committee, and six being considered by Investigating Committees.

Year on year comparison: Open files, concerns received, and files closed

In 2021 we closed 46 complaints about Chartered Professional Engineers and received 35 complaints, which left us starting 2022 with 44 open files. In 2022, we closed less complaints (35) but also received less new complaints (25), reducing the total number of open files to 34.

Figure 6: Comparison of open files, concerns received, and files closed: 2018–2021



The length of time it takes to resolve a complaint varies due to factors including:

- » the technical complexity of the subject matter
- » the responsiveness and engagement of the parties
- » the availability of decision-makers and expert advisors
- » time spent exploring the possibility of early resolution; and
- » the complaints team's case load.

The Registration Authority is pleased to report that in 2022 the complaints team continued the trend of closing more files than it received. We will continue to focus on process improvements to improve how the Registration Authority engages with parties during investigations, to avoid lengthy delays due to lack of responsiveness.

Even though many complaints were closed in 2022, the complaints team is still dealing with a heavy case load due to the number of technical complex cases, appeals, and staffing issues. The year was also disrupted, again, due to Covid-19 restrictions and illness.

DECISION MAKER CAPABILITY

In accordance with the Rules, we keep a list of Investigating Committee Chairs and Disciplinary Committee Chairs, along with a list of engineers who have agreed to be members of these committees. These are volunteer positions.

We work closely with our decision makers to ensure robust, fair, and proportional decision-making. While the team tries to move complaints through the process quickly, one of the factors that contributes to the length of time a complaint takes to move through the process is the availability of our decision makers. As of December 2022, we had eight active Investigating Committee Chairs (one more than at the same time the year before) and three Disciplinary Committee Chairs.

Investigating Committee Chairs also act as Adjudicators and are therefore expected to make a large number of decisions. As of December 2022, we had five files assigned to Adjudicators with a similar number needing to be assigned.

We are committed to ensuring the roles of our decision makers are sustainable ones. We have been working to increase the number of members available to sit on committees, with the intention they will eventually become Chairs.

Themes and trends

The 37 concerns/complaints closed in 2022 have been categorised according to the key issues and the practice field of the engineer involved.

In a change from previous years, issues about professionalism and communication have overtaken competence as the most common source of complaints. This includes complaints about communication misunderstandings, conflicts of interest, client care, and the attitude and response of engineers when disputes arise. Almost all complaints include an element of relationship breakdown between the parties.

Our early resolution process continues to be an asset in responding to complaints where the key issue is relationship or communication-based, as opposed to complaints that raise significant competence or safety concerns.

Practice fields

Consistent with previous years, the greatest complaints we receive are about structural engineers. We believe this is being largely due to there simply being a greater number of structural engineers in practice, as opposed to the quality of structural engineers. Similarly, structural engineers often have more direct and frequent contact with their clients, who are usually members of the public. Structural engineers also have more public visibility than other parts of the profession.

Appeals to CPEC

Until recently, the number of appeals to CPEC on complaints matters had historically been around three a year. This spiked in 2021 to a record of 12 appeals. We were pleased to see that number reduce last year with only four new appeals being received.

One of the four appeals was by a complainant unsatisfied with a decision to dismiss their complaint. The other three appeals were by engineers unhappy with decisions made about them. Two of these were appeals against decisions by Chairs of Investigating Committees (Adjudicators) to refer a complaint to an investigating committee. We do not often receive appeals at this earlier stage of the process.

Of the six decisions received from CPEC last year, all upheld the verdicts of our decision makers. (The one slight exception to this was a decision upholding a disciplinary committee's decision but altering the disciplinary penalty imposed on the engineer.) We are therefore still confident the credibility of our decision-makers, and the robustness of our process, is reflected in the low numbers of appeals to CPEC arising from complaints decisions.

Table 8: Key issues of complaints files closed

Year*	Ethics, behaviour and professionalism	Competency
2022	30	19
2021	13	27
2020	16	18
2019	16	20
2018	10	30

Table 9: Practice fields relating to complaints received

Year	2022	2021	2020	2019	2018
Structural	21	18	24	22	33
Civil	5	1	6	6	2
Geotechnical	8	2	3	1	2
Water	-	-	1	-	-
Transport	2	1	-	2	-
Fire	1	-	-	1	-

* Note: numbers do not always match total number of complaints closed, as some complaints encompass both ethical and competence key issues

Learning from complaints

The Legal Team continues to include an article in every issue of Engineering New Zealand's quarterly *EG* magazine, building on case studies and emerging legal issues, and the Registration Authority regularly contributes to Engineering New Zealand's newsletter Discover. Articles about complaints and disciplinary decisions consistently attract high readership figures.

In 2022 the Registration Authority began publishing the learnings from complaints in an educational format accessible to members. We hope to continue building on these lessons learned.

GCCRS and CEIT

Engineering New Zealand has been assisting the Government with its Greater Christchurch Claims Resolution Service (GCCRS) since late 2018. Engineering New Zealand is very pleased to be working with the Government to extend the GCCRS model into a nationwide New Zealand Claims Resolution Service in 2023.

The GCCRS provided a free case management service for residential homeowners in Christchurch who need assistance to resolve outstanding insurance claims. Engineering New Zealand administered an expert engineering Panel to assist the GCCRS with claims resolution. The panel offered peer review and expert advice. In addition, Engineering New Zealand operated a service to facilitate between engineers who have different opinions on earthquake damage and reinstatement. The facilitators are senior engineers specifically trained in facilitation and mediation techniques.

The services of the Panel were extended to the Canterbury Earthquake Insurance Tribunal (CEIT) when it was established in 2019. The Panel has provided engineering services to over 400 homeowners in resolving their claims. Feedback on the service continues to be extremely positive. The Panel's work is a direct response to what the Registration Authority has seen through complaints and has contributed to the successful resolution of some long-standing disputes between homeowners and insurance companies.

We look forward to assisting with the NZCRS – a permanent, wrap-around, national service to help homeowners resolve residential insurance claims resulting from all types of natural disasters.

Case studies

The following three case studies show how complaints are being resolved through our complaints process. These case studies paint a picture of our approach to complaints, working with the parties to achieve resolution that is proportional and fair, which in turn helps to rebuild trust and confidence in the profession.

CASE STUDY ONE

UPHELD BY DISCIPLINARY COMMITTEE

In June 2019, Dr Zheng Wu CPEng CMEngNZ designed and oversaw remedial work to an earthquake-damaged house he had bought in Christchurch. He then listed the property for sale through a real estate agency. Potential purchasers withdrew their offer to purchase the property after they received a report which raised concerns about the adequacy of the remedial work. They complained to the Registration Authority about the standard of the works designed by Dr Wu and carried out under a discretionary building consent exemption. They also had concerns about Dr Wu not disclosing his identity as the owner of the property when he applied to the Council for his design to be exempted from the building consent process.

When the matter was referred to a Disciplinary Committee, Dr Wu agreed his actions, as set out in the Investigating Committee's report, established a ground of discipline. This saved all parties involved a significant amount of time and effort. The Disciplinary Committee agreed with the Investigating Committee's decision and the complaint was upheld. The Disciplinary Committee found Dr Wu had not acted in accordance with the standard expected of a Chartered Professional Engineer. It ordered Dr Wu be censured, fined \$2,500, and ordered to pay 50% of costs.

The Disciplinary Committee also ordered that Dr Wu undertake professional development in both technical considerations relating to post-earthquake repair of residential properties, as well as professional practice and ethics. Dr Wu promptly complied with the obligations to the satisfaction of the Disciplinary Committee Chair. He undertook mentoring and supervision with a senior engineer who is a member of Engineering New Zealand's expert engineer Panel set up to assist the GCCRS. It was pleasing to see the expertise of this Panel being able to be used for this purpose.

CASE STUDY TWO

DISMISSED BY ADJUDICATOR

An engineer was engaged to provide construction monitoring for a steel beam and posts during rebuilding work after a residential fire. The complainant was concerned the engineer had not acted in accordance with best practice when he authorised the placing of a supporting post on a timber base plate.

The matter was referred to an Adjudicator. The engineer engaged well during the initial investigation process, responding promptly and fully to the concerns being raised and providing appropriate evidence to support his response. This allowed the Adjudicator to quickly form a view on the matter. The complaint was dismissed on the ground that there was no applicable ground of discipline.

When an engineer responds in a helpful and productive way during the initial investigation, taking the complaint seriously, the matter is usually able to proceed more efficiently through the complaints process.

CASE STUDY THREE

ALTERNATIVE DISPUTE RESOLUTION

In 2018, the complainants engaged Mr A CPEng CMEngNZ to carry out a geotechnical assessment and design a new retaining wall for their property after the old one was damaged by heavy rain. Mr A issued his report stating the retaining wall's maximum height above ground would be 3 metres. Due to a dispute about payment, the complainants terminated Mr A's engagement, engaging another company to carry out construction monitoring. When construction began in 2019, the contractor said the maximum height of the retaining wall needed to be 5 metres. The complainants made a complaint to the Registration Authority claiming Mr A had acted incompetently and unprofessionally in preparing an unfeasible design and concerned about his lack of engagement when they tried to remedy the issue.

The matter was referred to an investigating committee. As part of its review, the Committee engaged an independent expert advisor to review the design. The expert concluded the design was fit for purpose with a degree of modification and Mr A had complied with the relevant standards that applied at the time. The expert noted the key issue was not so much an engineering one, but rather the relationship and level of communication at a crucial stage of construction.

The Investigating Committee wrote to the parties asking if they would like to engage in mediation on the basis that the key issue in the complaint appeared to be miscommunication.

As a result of mediation with one of our experienced mediators in November 2022, the parties were able to reach a full settlement and the complainants agreed to withdraw the complaint. The complainants commented:

We acknowledge and appreciate the time and financial resources Engineering New Zealand has invested in investigating our complaint and the regular communication, through what has been a lengthy process.

We felt that Engineering New Zealand treated our complaint seriously and us with respect and courtesy throughout the process. Whilst we were initially reluctant to engage in mediation it does provide an opportunity for the parties to talk through their differences and identify learnings for the future. It has achieved that.

Appendix 1

CPEng fees for 2022 (unchanged since 2015)

Initial registration Charge or rebate	Amount (excl. GST)
	(\$)
Registration application charge	3,253
less any of the following rebates that apply:	
if there is no engineering knowledge assessment	1,175
if there is no interactive assessment	270
for each assessor (if any) who is not remunerated for an assessment during which there is an interactive assessment	513
for each assessor (if any) who is not remunerated for an assessment during which there is no interactive assessment	378
for applicants exempted under rule 9(2) from having to provide certain information, if the assessment panel uses only a single interactive assessment	350
Registration certificates Charge	Amount (excl. GST)
	(\$)
Registration certificate charge for a certificate issued for 1 year commencing 1 January	460
Registration certificate charge for each calendar month, or part of a calendar month, for which a certificate is issued if issued for less than 1 year	40
Continued registration Charge or rebate	Amount (excl. GST)
	(\$)
Further interactive assessment charge	640
less the following rebate if it applies:	
for each assessor (if any) who is not remunerated for the further interactive assessment	225
Review of registration decision procedures Charge	Amount (excl. GST)
	(\$)
Charge for review of decision procedures	1,000
Voluntary abeyance Charge	Amount (excl. GST)
	(\$)
Charge for each 12 month period of abeyance	289

Appendix 2

Summary of fee income and costs incurred 2022

CPEng Annual Summary		
Summary of fee income and costs incurred	2022	2021
	\$	\$
Revenue from annual CPEng fees, fines and admission applications	2,441,353	2,141,807
Less:		
Operational costs	871,658	710,238
Professional standards costs	1,393,068	947,093
Complaints and litigation	326,634	550,986
Total expenditure	2,591,360	2,208,318
Net deficit	(150,008)	(66,511)
Carry forward loss	(\$2,316,747)	(\$2,166,740)

Notes:

1. All figures are for the year ended 30 September 2022 and are taken from The Institution of Professional Engineers New Zealand Incorporated (Engineering New Zealand) audited accounts and associated management reporting.
2. Operational costs are an allocation of costs based on the relative membership numbers.
3. Professional standards costs are based on a direct allocation of costs associated with CPEng professional standards activity.
4. Complaints and litigation costs are the direct costs associated with receiving and processing complaints and costs associated with individual hearings.

There is a carried-forward deficit of \$2,316,747 after this year's result.



**REGISTRATION
AUTHORITY**
FOR CHARTERED PROFESSIONAL ENGINEERS



**engineering
new zealand**
te ao rangahau

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The Registration Authority under the Chartered Professional Engineers of New Zealand Act 2002 is the Institution of Professional Engineers New Zealand (trading as Engineering New Zealand).